REMARKS

In response to the Official Action mailed December 18, 2002, Applicants amend their application and request reconsideration.

THE OFFICIAL ACTION

The Official Action mailed December 18, 2002 is unlike any the undersigned has ever encountered in more than 20 years of prosecution practice. It appears that the Official Action was not final and not in condition for mailing. Pages 3-5 and 7 of the Official Action included numerous remarks in red. A copy of those four pages as received is attached. If the Official Action was inadvertently issued, it should be withdrawn and new, complete Official Action issued. Applicants are responding to the Official Action to the best of their ability having interpolated the remarks on pages 3-5 and 7 of the Official Action.

SUBSTITUTE SPECIFICATION

The title of the patent application was objection as not descriptive. The title suggested by the Examiner is adopted. The Examiner required the submission of a substitute specification, erroneously stating that a substitute specification includes claims. In response to the demand, a substitute specification is attached, along with a computer-generated document indicating the differences between the original specification as filed and the substitute specification. No new matter was added in the course of preparing the substitute specification.

The Official Action included a number of comments concerning the specification and demanded that the specification be limited to a "succinct description of the claimed invention". There is no legal authority for such a demand or statement and therefore it is ignored. Further, the Examiner objected to the section of the specification titled "Disclosure of the Invention", asserting that it added nothing to the disclosure. Perhaps the Examiner is more familiar with such a section head "Summary of the Invention". The present application is a national phase application of a patent application filed pursuant to the PCT. Somewhat different headings are sometimes used in preparing international applications and carrying forward these headings in an application filed pursuant to 35 U.S.C. 371 is not open to objection.

DRAWINGS

The Official Action included a PTO-948 Form from the Official Draftsperson objecting to the drawings on a number of grounds. Nearly all of these objections are respectfully traversed and the Examiner is requested to take action on the traversal or to indicate the appropriate procedure responding, based on the traversal. Based upon the undersigned's experience, the only legitimate objection concerns solid black elements. The assertion that the lines are not uniformly thick or well defined is erroneous and contrary to years of experience with the U.S. Patent and Trademark Office. A review of the figures indicates that few figures need separate labeling. Rather, most of the cited figures, such as Figure 8, are in the form of flow charts that do not require separate labeling. A proposed drawing amendment is attached with respect to Figures 14-16 providing individual labels.

The drawings were objected to as containing foreign characters. To the extent the drawings depict video game displays that include foreign language characters as part of pictorial displays, the drawing objection is traversed. With regard to Figures 30, 37, and 38, replacement foreign characters are already shown. Upon the identification of allowable subject matter, formal drawings will be supplied replacing, in those Figures 30, 37, and 38, the foreign characters with the Roman characters shown.

The Examiner stated that many of the drawings do not illustrate any feature contained in the claims. While the Examiner urges the deletion of drawings, Applicants do not choose to delete any drawings. The Examiner has no authority for demanding deletion of drawing figures and there is no requirement that each figure illustrate some feature of a claim. The Examiner also stated that certain material which he found provocative or sexually suggestive should be removed from the figures. What standard is to be applied in determining what might be considered offensive in a patent application has not been established by statute, regulation, or court decision. Therefore, the request is unauthorized and without basis. Nevertheless, in an attempt to advance prosecution, replacement sheets for Figure 12 and parts of Figures 31 and 35 are attached, deleting what the Examiner apparently finds to be provocative or sexually suggestive.

REJECTIONS PURSUANT TO 35 U.S.C. 112

Claim 3 was rejected as indefinite with a long inappropriate explanation. Clearly there were two typographical errors in claim 3. The claim was not "particularly full of grammatical and typographical errors". The claim can be easily read, particularly in conjunction with the specification. Claim 3 has been substantially amended and the lengthy claim 3 now presented is not open to a similar rejection.

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Claims 5 and 16 were similarly rejected. The rejection of claim 16 is moot and claim 5 has been amended so that it is not open to the same rejection. The Examiner is encouraged to read the terms of the claim in conjunction with their definition in prior claims. Thus, the "means for determining" in claim 5 is the element that changes the production display. The claim states several conditions that must occur in conjunction with a game to shift to the special game state.

CLAIMS

In this Amendment, claims 4 and 16 are cancelled and claims 18-39 are added. Support for the amended and added claims can be found throughout the specification. For example, amended claim 1 and new claim 23 are supported in the original specification from page 18, line 14 through page 19, line 6. Amended claim 3 is supported at page 20, lines 5-12. Claims 11 and 32 are supported in the passage from page 18, line 14 through page 19, line 6. Amended claims 12, 16, and 17 are supported in the original specification in the passage from page 25, line 28 through page 26, line 3. Claims 18 and 24 are supported at page 19, lines 7-23. Claims 20 and 26 are supported by the description from page 37, line 25 to page 38, line 23. Claim 33 finds support on page 33, lines 4-13.

PRIOR ART REJECTIONS

Of the original claims, apparently claims 1-5, 7, 8, 10, and 11 were rejected as anticipated by the description of the prior art in the patent application. This rejection is respectfully traversed.

In the foregoing amendment, claim 4 has been cancelled and claim 3 has been amended so that it is now an independent claim. Thus, of the examined claims rejected and still pending, claims 1, 3, 10, and 11 are independent claims. Each of those claims has been amended and none of the four independent claims is anticipated by the prior art described in the patent application. Thus, the rejection cannot be properly maintained as to amended claims 1, 2, 3, 5, 7, 8, 10, and 11.

With regard to claim 1, Applicants agree with the characterization of the prior art described in the patent application only with respect to the following discussion. The background art in the patent application describes a game display separate from the ordinary display of the varying game symbols that does provide some warning that a jackpot is near. In the golf game described, a game character makes a number of tee shots and if the ball reaches and enters the golf hole, then a jackpot symbol is displayed. If the ball misses, then a miss symbol is displayed.

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Unlike the invention as described in amended claim 1, the prior art does not describe that two different characters are displayed or that each character has a word design indicating the probability of a special game state occurring or the probability of a pre-jackpot condition. The pre-jackpot condition, referred to and explained in the patent application as a "reach", indicates the likelihood of shifting to the special game state if the varying display stops an additional special symbol of the game at a particular stop arrangement. This feature means that a player of the game does not have to visually trace the special symbols, which move at very high speeds, until the pre-jackpot state is reached. There is no description nor suggestion of such an arrangement in the background art described in the patent application. Therefore, claim 1 as now presented cannot be anticipated by the description in the patent application. It follows that none of claims 2, 7, and 8, which depend from claim 1, can be anticipated.

Amended independent claim 3 has some similarities to amended claim 1. Claim 3 differs from claim 1 in a number of respects. One of those differences is that, unlike claim 1, in the game machine of claim 3, the game-related production displayed does not include a word design for each character, but an attachment design attached to the production display of each of the two characters. That attachment display, unlike the word design of claim 1, is an indicator of the probability of attaining a special game state or the probability of attaining the reach, i.e., pre-jackpot, state. Nothing similar is described in the background art section of the patent application. Therefore, amended claim 3 cannot be anticipated by that description. Likewise, claim 5, which depends from claim 3 cannot be anticipated.

Claim 10 has been amended by including an additional element, a start win sensor outputting a detection signal and by explaining the response to the detection signal that is output when a game ball enters a start win hole. No game is described in the background section of the patent application including this feature. Therefore, claim 10 cannot be anticipated by that description. In the game machine described in claim 10, the display is controlled and provides an indication, with a specific arrangement at the end of a scenario, showing that the game will move to a special game state at the end of that scenario. Thus, the game player can determine the development of the game simply by watching the production display. Claim 10 is clearly not anticipated by the description of the background art in the patent application.

Claim 11 is an independent claim relating to a recording medium on which a game program has been recorded. Claim 11 has been amended in a way that is similar to amended of claim 1. For the same reason that amended claim 1 cannot be anticipated by the background description the patent application, claim 11 cannot be anticipated.

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Claim 6 was rejected as obvious over the prior art described in the background section of the patent application as applied to claim 5 and further in view of Barrie (GB 2,144,644). This rejection is respectfully traversed.

Claim 6 is a dependent claim depending from claim 5. The rejection of claim 6 is founded upon the assertion that claim 5 is anticipated by the background art described in the patent application and that the limitation of claim 6, which is unchanged in this Amendment, is disclosed by Barrie. In other words, the rejection is founded upon the assertion of anticipation with regard to examined claim 5 that cannot be maintained with respect to amended claim 5. The premise of the rejection is no longer applicable. Therefore, the rejection of claim 6 must be withdrawn.

Claim 9 was rejected as unpatentable over the description in the background section of the patent application in view of Claypole et al. (GB 2,262,642, hereinafter Claypole). This rejection is respectfully traversed.

Claim 9 is also a dependent claim depending from claim 1. The limitation of claim 9 has not been changed, except to conform to a formality amendment of claim 1. As in the rejection of claim 6, the rejection of claim 9 is founded upon the assertion that examined claim 1 is anticipated by the background description in the patent application. Since the rejection of examined claim 1 cannot be maintained with respect to amended claim 1, the rejection of claim 9 is no longer viable and must be withdrawn.

Claims 12-17 were rejected as unpatentable over the disclosure in the background section of the patent application in view of Fuchs (U.S. Patent 5,630,753). This rejection is respectfully traversed. Claim 16 has been cancelled.

Claims 12 and 17 are independent claims that are parallel to each other, claim 12 being directed to a game machine and claim 17 being directed to a recording medium containing the program for operating the game machine. Thus, if claim 12 is distinguishable from the asserted combination of the background description and Fuchs, so is claim 17.

Claim 12 has been amended so that it describes in more detail the means for control of the display. Specifically, amended claim 12 describes that the suggestion display is produced when the game is not being played, i.e., in "attract" mode intended to attract a player to the game, or when the game is being played and the varying display of the special symbol is not being displayed. Further, the suggestion display implicitly notifies a player of the game of the relationship between the production design and the probability of shifting to a special game state. In other words, the suggestion displayed does not necessarily have a direct connection to the playing of the game. By contrast, in Fuchs, a game machine includes a suggestion display, but the game player must act in response to the suggestion in order to
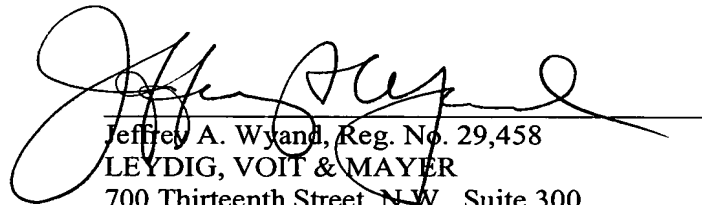
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play the game. That relationship is entirely different from what is described in amended claims 12 and 17. Thus, even if the description of the background art in the patent application is modified by Fuchs, the combination cannot include all of the elements of claims 12 and 17, or of claims 13-15 and therefore cannot establish *prima facie* obviousness of any of those five claims.

Since the foregoing response to each of the points raised by the Examiner demonstrates that the claims now pending are clearly patentable over the sources of prior art applied in rejecting the claims, all of the remaining examined claims should be allowed as should the newly added claims.

Prompt and favorable Action is earnest solicited.

Respectfully submitted,

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Date: May 16, 2003
JAW:ves

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Drawings

4.   The drawings are objected to because of the issues noted on the attached Notice of

Draftsperson's Patent Drawing Review. A proposed drawing correction or corrected drawings

are required in reply to the Office action to avoid abandonment of the application. The objection

to the drawings will not be held in abeyance.

5.   Examiner also notes that there are many drawings that do not illustrate any features

contained in the claims. Any drawing that is necessary to illustrate the claimed invention should

be retained, but Examiner urges Applicant to consider deleting those that either do not apply to

the claimed invention or only do so tangentially. Applicant ~~might also consider~~ *should* removing or

~~editing~~ material that is of a provocative or sexually suggestive nature *in the text and in the drawings*. It has, for instance, been

suggested to the Examiner that the bare breasts and panties depicted in Fig 12 are *not* really germane

to the Applicant's invention. *and should be removed* *Also, any text in the production*

pattern determination tables that is of a provocative or sexually suggestive nature

(e.g. references to cup size, "your Claim Rejections - 35 USC § 112 *thing is small size" in fig. 31/1/38, "do you want to hold my microphone" in*

fig. 31/2/38) should be removed.

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

7.   Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing

to particularly point out and distinctly claim the subject matter which applicant regards as the

invention. The claims are generally narrative and indefinite, failing to conform with current U.S.

practice. They appear to be a literal translation into English from a foreign document and are

replete with grammatical and idiomatic errors. Claim 3 is particularly full of grammatical and

typographical errors. It is unclear what the limitation "the scenario progresses according to

timing in stopping of the variation display" means. Examiner assumes that this means that the scenario stops when the reels stop.

8.   Claim 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation "if the variation display stops an additional, second special symbol at a second specific arrangement", appears to be missing some text. Examiner believes this to mean that there are two special game states represented by two different sets of reel combinations. Or, to use the language of the Applicant's disclosure, there is a "reach" state and a "big hit" state, each represented by different symbol combinations.

9.   Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 contains the limitation, "wherein the suggestion display is shown when the game is not being played and, if being played, when the variation display of the special symbol is not shown." Examiner believes this limitation to mean that the suggestion display is only shown when the reels are not spinning.

Claim Rejections - 35 USC § 102

10.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) do not apply to the examination of this application as the application being examined

was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C.

122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment

by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11.   Claims 1-17 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant's

disclosure.

Claim 1: On page 2, Applicant teaches a game machine with a means for displaying a

special symbol indicating a shift to a special game state if a variation display stops at a

specific arrangement and for displaying a game-related production display is known to

the art. (Lines 1-8) Applicant discloses that the prior art also teaches means for

determining results of stopping of the variation display and controlling the means for

displaying according to the results. The means for determining controls the means for

displaying to produce a production display of a scenario of a game-related production

display from a beginning to an end of the scenario during a period from a start to an end

of the variation display. (See the discussion of the golf game display, lines 9-21.)

Claim 2: On lines 18-21 of page 2, Applicant describes a prior art game in which the

end of the scenario indicates whether to shift to the special game state. The golf ball hits

the hole if the game shifts to the special game state.

Claims 3 & 4: On page 4, lines 10-16, Applicant admits that in the prior art, the scenario

does not come to an end unless the special symbol is shown when the reels stop. This

means that if the special symbol is on the stopped reels, the means for determining

special game state at the end of the scenario – e.g., the golf ball falls into the hole to

indicate that the game has moved to a special game state.

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's

disclosure as applied to claim 5 above, and further in view of Barrie (GB 2,144,644).

Claim 6: Applicant's specification reveals that the prior art teaches the invention

substantially as claimed. For instance, Applicant describes a fishing scenario in which

the evolution of the scenario is indicated by changes in the fish caught. Changing the

background to indicate the evolution of the scenario is merely a cosmetic design choice.

However, Barrie teaches changing the background to indicate the evolution of the

scenario. (Figs 5-8) This adds to the visual appeal of the game. It would have been

obvious to one of ordinary skill in the art at the time of the invention to have indicated the
described in Applicant's disclosure *, in view of Barrie,*
evolution of the scenario by changes in a background of the production display in order

to add visual appeal to the game.

similar changes in other 103 s.

14.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's

disclosure as applied to claim 1 in view of Claypole et al. (GB 2,262,642).

Claim 9: Applicant's disclosure reveals that the prior art teaches the invention

substantially as claimed. While Applicants disclosure does not specifically teach that the

FIG. 14

Best couples

FIG, 14(I)   FIG, 14(II)   FIG14(III)   FIG, 14IV)

FIG, 14(V)   FIG, 14(VI)   FIG, 14 (VII)

FIG. 15

FIG. 15D1

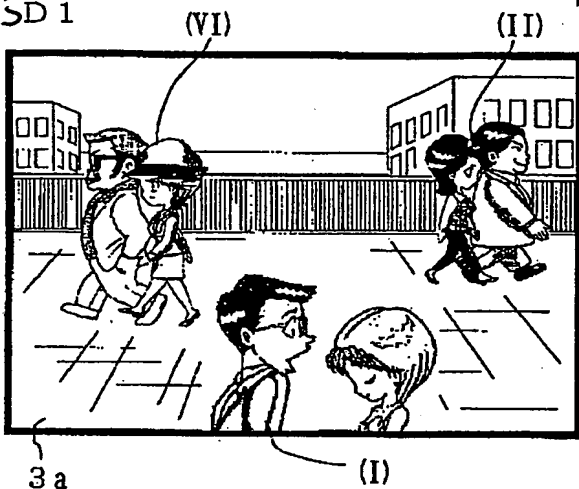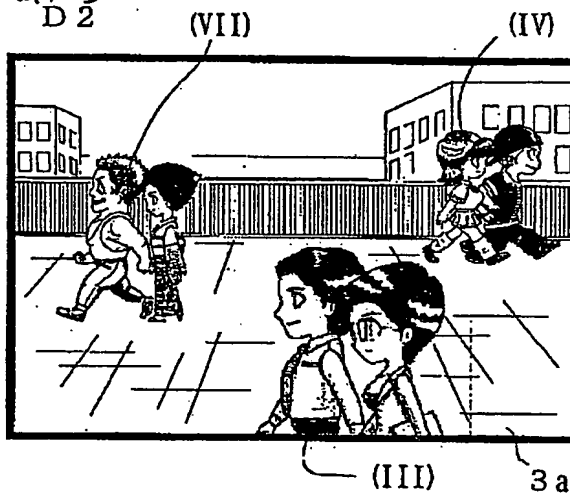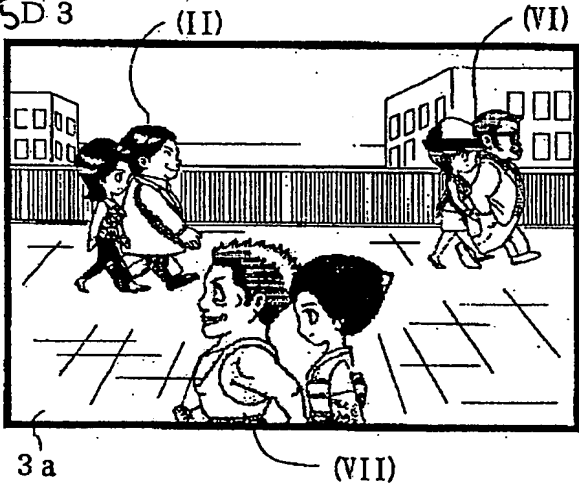
FIG. 15 D2

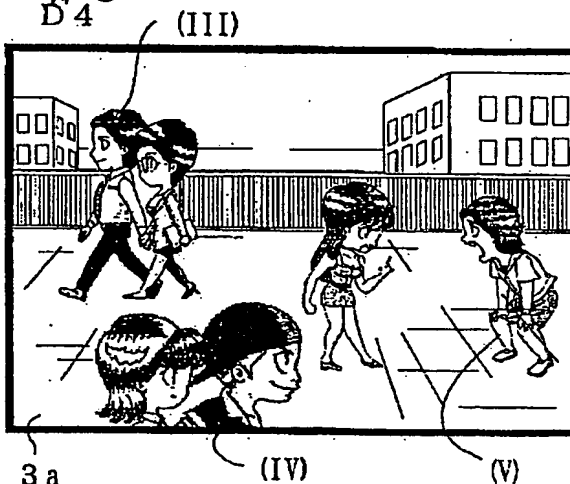FIG. 15D3

FIG. 15 D4

FIG. 16

FIG. 16 D 5

58

3 a

FIG. 16 D 6

3 a

59
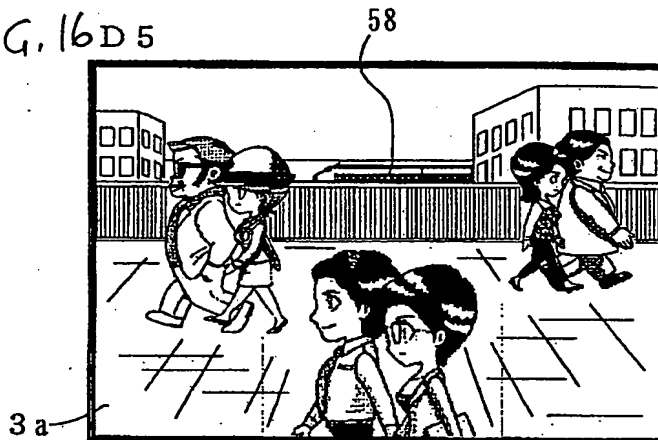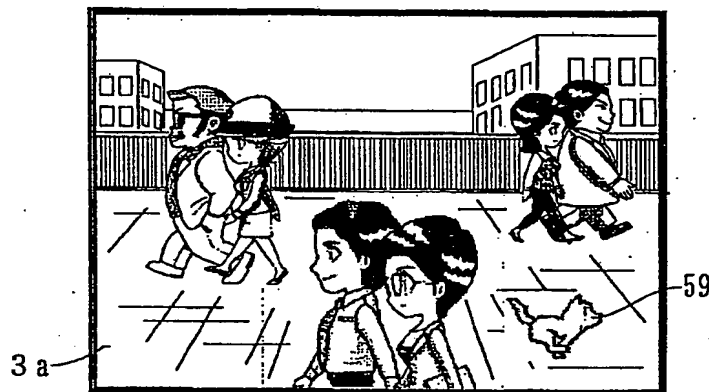
[Description

GAME MACHINE]GAME MACHINE WITH STORY DISPLAY PROVIDING INDICATION OF THE STATE OF THE GAME

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Technical Field

This invention relates to game machines, such as a pachinko game machine [(][(a pinball-like game machine of Japanese origin), comprising a display means for displaying game-related designs and control means, such as a microcomputer, for controlling the

10 display.

Background Art

A type of pachinko [(][(a spring-driven steel ball [)] game) game machine has been on the market[,] in which a display means is provided to show [variation] a varying display of symbols when specific conditions are met (hereinafter called "special symbols")[, and]. An

15 advantage is given to the player if the [variation] varying display stops at a specific combination of the special symbols. In recent years, many [electric] electrical display devices [are used], such as liquid crystal display devices [capable of showing], have been used to show various production (dramatic) displays.

[Concerning such game machines, the] The greatest concern of the player is whether the

20 [variation] varying display stops at a special game state, [the so-called "big hit,"] a big-hit (jackpot), a combination of special symbols[,] favorable for the player. The combination of [the] special symbols is, for example, a set of three identical special symbols like "7-7-7." Therefore, the player [is to carefully trace visually] has to watch the special symbols shown as [variation] varying display very carefully.

25 However, since the [variation] display of [the] special symbols [is made] occurs at a high speed, [actually] the player is [like] actually visually tracing nearly invisible designs. Also, until the [result of stop of] special symbols [appears] appear, the process is monotonous [and], not [a] fun at all, and the player is bored. As the player visually traces the special symbols moving at high [speeds] speed, the player may suffer eyestrain.

30 In recent [year] years, arrangements for enhancing the fun of playing such games have

been put on the market. In one arrangement, a display [(pre-big-hit (Reach) production or Reach action)] is made separately from the ordinary display of the varying special symbols when a condition [of a Reach, where a big hit would happen with one more stop of the special symbol, is reached, so that] referred to as a Reach state occurs. Reach (pre-jackpot)

5 is a term borrowed from the Japanese version of the game mah-jongg in which only one more event will produce a winning condition, a jackpot. In the games employing a Reach state, only one more special symbol is needed for a jackpot to be reached. In a Reach state the player can feel that the time of a [big hit] jackpot is near. In another arrangement, the Reach display is [made with] presented through a story. However, the [fact that the] player

10 must still visually [traces] trace the special symbols moving at high [speeds] speed until the Reach state is [reached remains unchanged] attained.

In still another arrangement, a production display [is performed by causing] includes character designs [to appear] before [reaching] attaining the Reach state.

In such an arrangement, for example, in addition to [the] display of special symbols for

15 determining the occurrence of a special game state using a special [variation] varying display device, an animated image of a character playing golf is displayed, and the displayed result of the animated image [is made to correspond] corresponds to the displayed result of the special symbols. For example, during the [variation] varying display of the special symbols, an animated image is displayed in which a character

20 performs a series of [tee shot actions of] golf tee shots. If the ball enters the hole, a [big hit] jackpot symbol is displayed and, if not, a miss symbol is displayed. In this animated image, the common story of golf is used for different games, and the game to be displayed is switched according to [the number of starting up] how many times the special symbols started.

25 Still another arrangement of conventional technique is known[:]. While a game is going on with [variation] a varying display of special symbols[(variation display game)], a preliminary [variation] varying display game is played [as], interlocked with [the variation] a main varying display game. [Concerning] In the preliminary [variation] varying display game, an ornamental display is made in which a stop symbol is extracted when the

30 character design drives out a special symbol for [variation] the varying display.

In still another [arrangement of] conventional technique, animated image information [constituted to synchronize] synchronized with the [variation] varying display of the special symbol display device is displayed on an image display device. The animated image shows, for example, the story [from the step] of an angler, from the dropping of a

5 fishing line to the [step of] landing a fish, corresponding to the states of [big hit] jackpot, Reach, and miss. [Specifically, specific] Specific designs, such as an octopus, a shark, etc., corresponding to the special symbols defined as the stop symbols of the special symbol display device [are made to] appear while the [variation] varying display [is performed] continues with the special symbol display [device].

10 In still another arrangement, [it is devised] to enhance the player's feeling of [expectations: Magnitude of Reach evolution probability indicating whether a Reach demonstration appears or big hit probability] expectation, the magnitude of the probability of development of the Reach state is indicated with characters and their combinations [caused to] that appear during the [variation] varying display, and the [big hit] jackpot

15 probability is indicated [with] while the Reach demonstration is being displayed.

With the conventional technique described [above], however, the story shown with the animated image [is made different only concerning] differs only with regard to the image corresponding to the finally stopped result of the special symbols, and the story during the [variation] varying display remains the same. Therefore, the [evolution] development of

20 the story can be easily predicted and the player becomes bored after [viewing for a long] a time.

From another viewpoint, the displayed contents of the animated image (showing a golf ball missing a hole) are the same whether a miss results from a Reach state or not from a Reach state. Therefore, if the player watches the animated image only, the game comes to

25 an end without the player learning whether a Reach state [is reached or not] has been attained. That is, after all, in order for the player to learn the game state, the player cannot turn [the] his eyes from the monotonously varying display of [the] special symbols.

Even if plural kinds of animated images are [set on the basis of] used for the same story, since a monotonous pattern is repeated, the player gets bored.

30 According to the another [arrangement described above of the] conventional [technique]

arrangement, since the preliminary variable display game using the character designs is interlocked with the variable display game, [after all,] the player still cannot turn the eyes from the monotonous [variation] varying display.

According to the still another [arrangement described above of the] conventional [technique, since] arrangement, the animated image information is expressed [with] in close correlation [with] to the special symbols[, namely]. Namely, the [determined,] stopped designs are expressed with character designs, such as an octopus or a shark, [in order to learn] to reveal the state of the game. Therefore, it is necessary, every time the varying display stops, to check the stopped result after watching the display of the animated image information. [Besides, no] No change can be seen in the character design (the angler) before a Reach state is [reached] attained, which is monotonous. Moreover, [in case] when a Reach state is not [reached] attained because the special symbols on right and left hand sides are not in agreement, the story expressed with the animated image information does not come to an end[, and so]. Therefore, the player cannot grasp the state of the game [by] merely by watching the animated image information. That is, even if a production display is shown, [nothing changes in that] still the player must watch the special symbols that are [variation-]displayed.

Furthermore, with a game machine [performing] providing the varying display continuously for a long time, such as a game machine [having the function of] changing the winning rate in a [big hit] jackpot lottery (variable probability machine), the [above-mentioned] problems of "eyestrain" and "getting bored with monotonous [variation] varying display" become worse. On top of that, since most of the stopped results of the [variation] varying display are misses and most of which do not even [come to] achieve a Reach state, in watching the [variation] varying display [ends up in wasting] there is much wasted effort.

Some of the production displays include those indicating information that is favorable for the player, such as ["Big-hit] "Jackpot probability is high." Some of the players enjoy finding [out] such a production display during [the] play. For such players, an explanatory display [because of]detracts from the fun of the game even if there is the difficulty in understanding the contents of the production display [will detract from the fun of the

game].

An object of the invention is to provide a game machine [capable of making it possible for] allowing a player to learn, reliably [learn], the game [evolution] development, such as a [big hit,] jackpot, Reach [evolution] state development, and a miss, even without watching [variation-displayed] variable-display special symbols, by simply watching production displays.

Another object of the invention is to provide a game machine [capable of making it possible for] permitting a player to grasp production contents without depriving the player of the pleasure of finding a specific production display of information beneficial to the player.

Disclosure of Invention

A game machine [of a first] according to one form of the invention [is one comprising] comprises a display means (e.g., 3 in Fig.1) for displaying a special symbol (e.g., 50L, 50C, 50R in Fig. 2 and Fig. 27, Fig. 30) indicating shifting to a special game state (e.g., h3 in Fig.4), if a [variation] varying display (e.g., 50L, 50C, 50R in Fig. 2) stops at a specific state (e.g., h2 in Fig.4), and also displaying a game-related production display (e.g., 51, 52, 53a, 55a, ... in Fig. 2), and a control means (e.g., 30, 31 in Fig. 17) for determining the stopped result of the [variation] varying display and controlling the display of the display means according to the determination, the control means [being constituted to control] controlling the display means to [perform production] display [of producing] a scenario from [its] beginning to [the] end, during the period from the start to the end of the [variation display.]varying display.

[A second form is characterized in that] A game machine according to one form of the invention indicates, at the end of the scenario [indicates] whether to shift to a special game state (e.g., j3 in Fig. 5) or not (e.g., j4 in Fig. 5).

   A game machine according to one form of the invention controls the display means with the control means (e.g., 30 and 31 in Fig. 17) so that the scenario progresses[.

A third form is characterized by being constituted to control the display means so that the production display becomes such that the contents of the scenario progress] according to

the stop timing of the [variation display.]varying display (e.g., 50L, 50C, 50R in Fig. 2).

[A fourth form is characterized by being constituted to control] A game machine according to one form of the invention controls the display means so that the [production display becomes such that the] contents of the scenario [progress] progresses, irrespective of the stop timing of the [variation display.]varying display.

[A fifth form is characterized in that the control means is constituted to change] A game machine according to one form of the invention includes a control means for changing the production display to show the [evolution] development of the contents of the scenario when the game [state becomes] attains a Reach state [which shifts](e.g., f in Fig. 3), which causes a shift to a special game state if the [variation] varying display stops one more special symbol at a specific stop arrangement.

A [sixth form is characterized in that the evolution] game machine according to one form of the invention indicates the development of the contents of a scenario [is indicated] by changes in the background (e.g., 3a in Fig. 10 or Fig. 11) shown as a production display.

A [seventh form is characterized in that the]game machine according to one form of the invention shows a progress pattern of a scenario [shown] with [the] a production display [is different] that differs by the type of production designs or [combination thereof.]combinations of production designs.

[An eighth form is characterized in that the production display suggests moving on] A game machine according to one form of the invention provides a production display that suggests moving to a special game state according to the type of the production design or to an appended design [indicated as] appended to the production design.

A [ninth form is characterized in that] game machine according to one form of the invention includes, in the display means [is constituted with], a display zone for the production display [greater] larger than a display zone for [the variation] varying display of [the] a special symbol.

A [tenth form is characterized by comprising;] game machine according to one form of the invention includes a display means for displaying designs related to the game, and a control means for controlling the display on the display means, [said] the control means [performing production display of] producing the process from the beginning to the end of

a scenario, and controlling the display means to [display] <u>indicate</u> that the game moves [on] to a special game state when the [end of the scenario indicated with the production display becomes as specified.]<u>scenario results in a specified end.</u>

[An eleventh form is a recording medium having] <u>A recording medium according to one form of the invention has</u> a recorded game program [characterized in that a function of] displaying [the] <u>a</u> production from the beginning to the end of a scenario during [the period from the start to the stop of the variation display is added to a function of] <u>a period from the starting to the stopping of a varying display and</u> permitting a player to play a game by displaying a special symbol indicating shifting to a special game state if the [variation] <u>varying</u> display stops at a specific state.

A [twelfth form is characterized by comprising] <u>game machine according to one form of the invention comprises</u> a display means for displaying a special symbol indicating shifting to a special game state if [the variation] <u>a varying</u> display stops at a specific state and game-related designs, including a production design, indicating the probability of shifting to the special game state, [said] <u>the</u> display means [performing] <u>providing</u> a suggestion [display] of <u>a</u> relationship between the production design and the probability of shifting to the special game state.

A [thirteenth form is characterized in that the suggestion display indicates] <u>game machine according to one form of the invention provides, in the suggestion,</u> which of the production designs has a high probability of shifting to the special game state.

A [fourteenth form is characterized in that the suggestion display shows] <u>game machine according to one form of the invention shows, in the suggestion,</u> designs identical to the production designs or [ones relating thereto.] <u>designs relating to the production designs.</u>

[A fifteenth form is characterized in that the suggestion display is performed] <u>A game machine according to one form of the invention provides the suggestion</u> with an animated image.

A [sixteenth form is characterized in that the suggestion display is shown] <u>game machine according to one form of the invention shows the suggestion</u> when the game is not <u>being</u> played or when the [variation] <u>varying</u> display of the special symbol is not shown.

A [seventeenth form is a] recording medium [having] <u>according to one form of the</u>

invention has a recorded game program [with a function of] permitting a player to play a game while displaying a special symbol indicating shifting to a special game state if the [variation] varying display stops at a specific state [and], displaying game-related designs including a production design indicating the probability of shifting to a special game state,

5   [with said function added with a function of performing a suggestion display of]and providing a suggestion of the relationship between the production design and the probability of shifting of the game state.

According to [the first] one form of the invention, the control means controls the display means to display the production of a scenario from its beginning to its end, during

10   the period from the [start] starting to the [stop] stopping of the [variation] varying display. Therefore, [a production display is possible with which] the player can· learn the game [evolution] development, such as a [big hit,] jackpot, a Reach [evolution] development, a miss after a Reach state, and a miss, without watching the special symbols in [variation] the varying display. With such a production display, since the player need not concentrate

15   his attention [to] on the [variation] varying display, even when playing a game with [variation] varying display for a long period of time, games that do not cause eyestrain or boredom can be provided. Even if most of the games result in misses, the player can play the games with pleasure [of] by watching the evolution of scenario of the production display.

20   According to [the second] one form of the invention, since the end of the scenario of the production display indicates whether the game [shifts] will shift to a special game state, the player can easily learn, by simply watching the production display, the final result of the game [displayed in variation].

According to [the third] one form of the invention, since the contents of the scenario of

25   the production display proceed according to the timing of [stops] stopping of the [variation] varying display, the player can [grasp] comprehend the timing of each [stop] stopping of the [variation] varying display by simply watching the production display.

According to [the fourth] one form of the invention, since the contents of the scenario of the production display proceed irrespective of the timing of [stops] the stopping of the

30   [variation] varying display, games can [be evolved] evolve with originality, irrespective of

the [variation] varying display.

According to [the fifth] one form of the invention, since the control means changes the production display [when a Reach state is reached] so that the contents of the scenario evolve when a Reach state is attained, the player can easily [learn the occurrence of] determine when the Reach state has been attained, by simply watching the production display.

According to [the sixth] one form of the invention, since the evolution of the contents of the scenario is indicated [with the change in the] by changing of the background [indicated as] of a production display, the player is likely to notice the evolution of the scenario and can easily learn [the] when a change in the game, indicated [with] by the [variation] varying display will occur by simply watching the production display.

According to [the seventh] one form of the invention, since the progress pattern of the scenario indicated [with] by the production display varies according to the [types of] production designs appearing in the production display or [their combination] combinations of production designs, the player can predict, to some extent, the ensuing game evolution [by] simply by watching [the types of] the displayed production designs (for example, character designs) or their combination from the beginning. Additional fun [of] is provided by anticipating the appearance of production designs leading to a scenario evolution favorable [for] to the player [is also provided].

According to [the eighth] one form of the invention, the production display suggests the [shift] shifting to a special game state using the [types of the] production designs appearing in the production display or using appended designs [indicated as] attached to the production designs. Therefore, [situations] the status or final [results] result of the game indicated [with] by the [variation] varying display can be expressed in various ways using the production designs or appended designs.

According to [the ninth] one form of the invention, the display means has a display zone for the production display wider than a display zone for the [variation] varying display of the special [symbol] symbols. Therefore, the player can watch only the production display and enjoy its evolution without being distracted with the [variation] varying display.

According to [the tenth] one form of the invention, only the production display [of

producing the process] from the beginning to the end of a scenario is shown[, a game machine nonexistent in the past is provided that] in the display means. Therefore, a previously unknown game machine makes it possible to learn the occurrence of a [big hit] jackpot, a miss, or a Reach state without [performing] the conventional [variation] varying display.

[The eleventh] A recording medium according to one form of the invention [is a recording medium having] has a recorded game program [characterized in that a function of] displaying the production of a scenario from the beginning to the end, during [the] a period from the [start] starting to the [stop] stopping of the [variation] varying display [is added to a function of], permitting a player to play a game with a special symbol displayed to indicate shifting to a special game state if the [variation] varying display stops at a specific state. Therefore, the recording medium with the game program can be used for example in home game machines. Also, by installing the program from the recording medium [to] on general-purpose computers, [such] general-purpose computers may be used as game machines.

According to [the twelfth] one form of the invention, a suggestion of the relationship between the production design and the probability of shifting to a special game state is displayed. Therefore, the player can find a specific relationship between the production design and the probability of shifting to the special game state by watching the displayed suggestion. That is, the player can play for a long period of time[,] without getting bored[,] and with the pleasure of finding [out] from the displayed suggestions a specific production design having a high probability of shifting to a special game state and [with the pleasure of] discovering such a specific production design in the versatile production display actually shown.

According to [the thirteenth] one form of the invention, which of the production designs has a high probability of shifting to the special game state is suggested [with] in a display. Therefore, the player can easily [find out] identify a production design having a high probability of shifting to the special game state.

According to [the fourteenth] one form of the invention, since a suggestion display is shown with [the] a design that is the same as or related to the production design, the player

can directly grasp the relationship between the production design and the probability of shifting to the special game state.

According to [the fifteenth] one form of the invention, since a suggestion display is shown with an animated image, a more [concrete] specific suggestion display is [possible] provided and the fun of finding out which is the specific production design having a high probability of shifting to the specific game state is enhanced.

According to [the sixteenth] one form of the invention, if a suggestion display is shown when no game is played or when no [variation] varying display of special symbols is shown, for example when a demonstration image is shown, the demonstration image can be utilized [as a means] for displaying important information related to games rather than being used as a mere demonstration image. When the suggestion display is shown with the demonstration image in this way, the player can face the game after finding out which of the production designs is the specific one having a high probability of shifting to the special game state, even without understanding the meaning of the production design during the game.

[According to to the seventeenth] A recording medium according to one form of the invention[, it is possible to prepare a recording medium in which a game program is recorded, which program having a function of permitting] records a game program which permits a player to play a game by displaying game-related designs, including [the] special symbols and [the] production designs, as described above, [to which function is added another function of showing] and □mshowing□shows a suggestion [display] of the relationship between the production design and [the] probability of shifting game state, so that the player can use the program for example in a home game machine to enjoy the same game as [with] in the [above-described] game machine described above. It is also possible to install the program from the recording medium [to] on a general-purpose personal computer, for example, and utilize the personal computer as a game machine.

This application is based on Japanese patent applications, No. 11-244279, filed in Japan on August 31, 1999, and No. 11-244280, filed in Japan on August 31, 1999, which are entirely incorporated herein by reference.

This invention will be more completely understood through the following detailed

description. Additional application ranges of this invention will become clearer through the following detailed description. However, specific examples in the detailed explanation are preferable embodiments of the invention cited for the purpose of explanation only. For those skilled in the art, it is apparent that various changes and modifications can be made within the scope and spirit of the invention.

The applicant has no intention of presenting to the public any of the described embodiments. Of the disclosed modifications and alternatives, those [which] that may not be included in what is claimed in words shall be part of the invention under equity.

Brief Description of Drawings

FIG. 1 is a front view of the game board of a pachinko game machine [as] according to an embodiment of the invention.

FIG. 2 shows a flow of a display on the display screen.

FIG. 3 is a continuation from FIG. 2, showing the flow of the display on the display screen.

FIG. 4 shows a flow of display on the display screen [in case of "super] for a "super love-love Reach (pre-[big-hit]."] jackpot)."

FIG. 5 shows a flow of display on the display screen [in case of "direct] for a "direct-to-hotel Reach."

FIG. 6 shows a flow of display on the display screen [in case of "date] for a "date spot Reach."

FIG. 7 shows a flow of a display on the display screen [in case of "another] for a "another guy Reach."

FIG. 8 shows a flow of a display on the display screen while playing a [bit hit] jackpot game.

FIG. 9 shows Reach [evolution] state development rate, [big hit] and jackpot probability for every combination of male and female characters.

FIG. 10 shows a scene with a background ["station] of "station plaza."

FIG. 11 shows a scene on the display screen with a background of ["seaside]"seaside park."

FIG. 12 is an overview table of designs representing real intentions.

FIG. 13 is a table of probability and occurrence [rate] rates of [big hit] jackpots for every combination of the real intention designs.

FIG. 14 is a table of good couples.

FIG. 15 shows demonstration images on the display screen.

FIG. 16 shows another example of demonstration images on the display screen.

FIG. 17 is a block diagram[,] showing [an electric] a circuit [constitution] of a pachinko game machine.

FIG. 18 is a flowchart of a main game control process related to a game played with a liquid crystal display device [performed] with a main circuit board.

FIG. 19 is a flowchart of an [interruption] interrupt process.

FIG. 20 is a flowchart of a special symbol game control process.

FIG. 21 is a [flowchart, showing the] continuation of FIG. 20.

FIG. 22 is a flow chart of [main] processing performed with a symbol control circuit board.

FIG. 23 is a flow chart of image processing [performed with] by the symbol control circuit board.

FIG. 24 is a flow chart of production pattern determination processing [performed with] by a symbol control circuit board.

FIG. 25 is a table of count value renewal ranges of various types of random number counters.

FIG. 26 is a [big hit] jackpot judgment table.

FIG. 27 is a [big hit] jackpot symbol determination table.

FIG. 28 is a table [of] for determining production groups.

FIG. 29 is a Reach state judgment table.

FIG. 30 is a stop symbol determination table.

FIG. 31 is a production pattern determination table [(1)] for misses without [reaching] attaining a Reach state.

FIG. 32 is a production pattern determination table [(2)] for misses without [reaching] attaining a Reach state.

FIG. 33 is a production pattern determination table [(1)] for misses after [reaching] attaining a Reach state.

FIG. 34 is a production pattern determination table [(2)] for misses after [reaching] attaining a Reach state.

FIG. 35 is a production pattern determination table [(1)] for [big hits] jackpots.

FIG. 36 is a production pattern determination table [(2)] for [big hits] jackpots.

FIG. 37 is table of [looks] appearances of male characters.

FIG. 38 is table of [looks] appearances of female characters.

Best Mode for Carrying Out the Invention

[Here will be described a pachinko game machine as an embodiment of the invention.
]FIG. 1 is a front view of the game board 10 of the pachinko game machine. A liquid crystal display device 3 [as a means] for displaying designs related to games is placed in about the center of the game board 10. The liquid crystal display device 3 [variation-displays] provides a varying display of plural symbols expressed with images to [show] simulate three rows of reels of a slot machine [in simulated manner]. The [variation-]variably displayed symbols are termed "special symbols." The special symbol, if its [variation] varying display stops at a specific stop arrangement (such as a stop [arrangement "7] arrangement "7-7-7", which is termed a ["big hit")]"big-hit" or a "jackpot"), indicates a shift to a special game state favorable [for] to the player. In the special game state, to be specifically described later, a big prize hole 5, described later, is converted to a favorable state.

The liquid crystal display device 3 also displays various production displays during the [variation] varying display of the special symbols. The production display is expressed in various forms of images: An omen, i.e., warning or foretelling, production design representing a ["big hit] "jackpot probability" of shifting to the [above-mentioned] special game state or a "Reach evolution (or development) probability" of evolving to the Reach state, or a Reach state production design displayed in the Reach state, which may shift to the [above-mentioned] special game state if one more stop occurs. These omen production [design] designs and Reach state production [design] designs are expressed in various

image forms.

In this embodiment, as shown in FIG. 2(a) [to be] described later, special symbols [constituted] with stylized numerical symbols [etc.] are displayed in the display zones 50L, 50C, and 50R in the upper part of the display screen 3a of the liquid crystal display device

5   3. [In other display zones are displayed the above-mentioned] The omen production designs and Reach production designs are displayed in the other display zones, production display zones, as game-related production displays. The special symbols are images, expressed with [electric] electrical signals, of the symbols on the three [reels of] rotary reels of a slot machine. The omen production designs and Reach production designs are

10   also displayed [also] with animated pictures and letters [etc.] as well as with designs. [In FIG. 2(a) are shown omen] Omen production designs using a male character 51 and a female character 52 with the background of a station plaza are shown in FIG. 2(a). The male character 51 and the female character 52 chat with each other, [changes] and change their expressions and physical movements. Evolution from the beginning to the end of a

15   specific scenario is displayed with different situations realized by changing the background. That is, depending on the kind of [a] scenario along which the production display evolves, the ensuing game result varies, and the contents appearing in the course of the production display [suggests] suggest probabilities of a [big hit] jackpot and [evolving into] attaining a Reach state.

20   The omen production design heralds that either [that] the [variation] varying display of the special symbol [thereafter becomes] will become a Reach state or [that] the [variation] varying display [stops] will stop after reaching a Reach state at a specific state indicating a ["big hit"]"jackpot", such as ["7]"7-7-7." The omen production design [is constituted to change] changes into various display states.

25   Therefore, the player can predict to some extent the probability of [evolving into] attaining a Reach state or the appearance of a [big hit] jackpot thereafter by recognizing [along] which scenario [the contents] displayed with the omen production design are evolving and by grasping the development of a story.

When a Reach state is [reached] attained, the production display is shown with contents

30   of the scenario in the state of having greatly evolved. For example, when [two,] male and

female (two) characters are placed in a different situation with a different background, the player can easily understand that the scenario has evolved greatly and easily recognize that the game has [reached] attained a Reach state. The probability of a [big hit] jackpot is [made] different according to the extent of evolution of a scenario. Such a production display will be described later in more [in] detail for specific contents of the display.

In this way, [it is arranged that,] in case a Reach state is [reached] attained, a Reach state production design separate from the omen production design is displayed as a production display [for], informing the player of [reaching] attaining that state. The Reach state production design is shown in the course of the evolving story and its display manner is [made] different according to the [big hit] jackpot probability.

Again referring to FIG. 1, a startup win hole 4 for a game ball to enter and start [variation] the varying display of the special symbols of the liquid crystal display device 3 is provided below the liquid crystal display device 3. The startup win hole 4 comprises a variable prize device convertible to a first state unfavorable for the player and a second state favorable for the player. It is designed so that[,] when a game ball enters the hole 4 and the second state occurs, a specified number of (for example, five) [of] prize balls are dispensed.

The startup win hole 4 has a prize space that can hold a game ball or two, even in the first state unfavorable for the player, and so a ball can enter the hole.

An LED display device 2 having seven segments is [provided] located above the liquid crystal display device 3. The LED display device 2 starts a [variation] varying display when a game ball passes through passage ball gates 6a[,] and 6b located on the game board 10. When the [variation] varying display of the LED display device 2 stops at a predetermined specific state, for example ["7]"7," the startup win hole 4 is converted to the second state that is favorable for the player.

Four LED operation memory lamps 16 are [provided] located around the LED display device 2. The LED operation memory lamps 16 [memorizes] memorize the number of passages, up to four, of [passages of] game balls through the passage ball gates 6a[, 6b every time the ball passes, and notifies] and 6b and notify the player of the number of variations[, possible at that time,] of the LED display device 2 possible at that time. The

memory occurres every time the ball passes. The fifth and later passages are not counted and become invalid.

Four startup win memory lamps 15, two for each of right and left sides, are [provided] located above the liquid crystal display device 3. [This is arranged to] The lamps 15 memorize the number of wins, up to a limit of four, with balls entering the startup win hole 4 while the [variation] varying display [is being performed with] appears on the liquid crystal display device 3, and [to] notify the player of the number of [variation] varying displays that can be shown on the liquid crystal display device 3 at that time by [causing] turning on the startup win memory lamps 15 [to be on]. Therefore, [in the state of] when all [the] four lamps 15 [being] are lit, [a] ball entry into the startup win-hole 4 is invalid as a [variation] varying display startup condition.

A big win hole (so-called ["attacker") 5]"attacker") 5, convertible to either a closed state disadvantageous to the player or an open state advantageous to the player, is [provided] located below the startup win hole 4. The big win hole 5 comprises a variable win device [of a type] having doors and convertible to an open state advantageous to the player when the [variation] varying display of the special symbols on the liquid crystal display device 3 stops [to show] and shows a specific combination of the special symbols, a ["big hit." It is arranged that when]"jackpot." When a game ball enters the hole 5, a specified number of (for example, 15) [of] prize balls are dispensed.

The [afore-mentioned] special game state [is the game state of permitting] permits 16 rounds of a [big hit] jackpot game with the big win hole 5 open until 10 balls enter the hole or 30 seconds elapse. However, in order to play a following next round after the first round of [big hit] jackpot game is over, a specific condition, generally called ["V]"V win", must be met.

Here, the big win hole 5 [is constituted with] includes plural win holes. The V win is [the case in which] occurs when a game ball enters a specific one of the plural win holes. The specific win hole is usually [set] in the center of the big win hole 5.

[On the] The game board 10 [are] further [provided,] includes pin wheels 12a[,] and 12b, general win holes 13a, 13b, 13c, 13d, 13e, and 13f for dispensing five prize balls to the player for every entry of a win ball, and board side lamps 14a[,] and 14b.

The contents of display on the display screen 3a are described below using specific examples.

When a game is started with the liquid crystal display device 3, [variation] <u>varying</u> display of specific symbols begins on the display zones 50L, 50C, and 50R of the display screen 3a as shown in FIG. 2(a). At the same time, a production display begins to produce a scenario.

FIG. 2(a) shows the state immediately after the [variation] <u>varying</u> display of the specific symbols begins. A production display is shown as follows: A background scene of a station plaza is shown on the display screen 3a. Next, a male character 51 as an omen production design comes into the scene from the left of the display screen 3a, and a female character 52 from the right. [And as] <u>As</u> shown in FIG. 2(b), the display changes to show both characters 51 and 52 standing close to each other.

After that, as the scenario evolves, attachment designs attached to the production design are shown. For example, as shown in FIG. 2(c), when the [variation] <u>varying</u> display in the left display zone [51L] <u>50L</u> stops, a word design 53a representing the words the male character 51 speaks to the female character 52 and a true (real) intention design 54a, not necessarily in agreement with the contents of the word design 53a, are shown respectively as the attachment designs. Here, the word design 53a of the male character 51 is shown as ["You]<u>"You</u> wanna sleep with me, yeah?" and the true intention design 54a shows that the true intention of the male character 51 is almost the same as the contents of the word design 53a.

In succession, as shown in FIG. 2(d), when the [variation] <u>varying</u> display in the right display zone [51R] <u>50R</u> stops, a word design 55a representing the words the female character 52 speaks back to the male character 51 and a true intention design 56a are shown respectively as the attachment designs. Here, the word design 55a of the female character 52 is shown as ["That's]<u>"That's</u> what I'm gonna say!" and the true intention design 56a shows that the true intention of the female character 52 is almost the same as the [contents] <u>content</u> of the word design 55a.

[On the contrary, in] <u>In</u> some cases, the true intention design is different in [contents] <u>content</u> from the word design, namely the words do not [in agreement] <u>agree</u> with the true

intention. Such a case is shown, for example, in FIG. 2(e) in which the true intention design is 56b when the true intention design 56a is shown. When the word design is in disagreement in [the] contents with the true intention design, the [big hit] jackpot probability thereafter is low.

5   [Here, various] Various patterns, as [shown] described later [in] for FIGs. 31 to 36,(production pattern determination table) are prearranged for the contents of the word designs. Therefore, [as] for the [contents] content of the word designs shown, conversations of the male and female characters are not necessarily going on smoothly [under] with mutual understanding, namely are not necessarily consistent, as shown in FIG.

10   2[(d).](d). The [contents] content of the word designs [show big hit] shows jackpot probability and Reach probability. When the conversation between the male and female characters is consistent, as shown in FIG. 2[(d),](d), the [big hit] jackpot probability and Reach evolution [rate] rates are high.

Various patterns are preset to the true intention designs, specifically 20 patterns, H1 to

15   H20, as shown in FIG. 12. In FIG. 2[(d)](d), the true intention of the female character 52 is shown with the true intention design 56a (H14 in FIG. 12) indicating that the true intention of the female character is almost the same as the [contents] content of the word design 55a. However, if the true intention design H19 of FIG. 12 is shown in FIG. 2[(d)](d), it cannot be considered to be in agreement with the [contents] content of the word design 55a. In that

20   case, the [big hit] jackpot probability or Reach evolution rate is low.

However, even if the conversation between the male and female characters is inconsistent, or if the true intention design 56a is inconsistent with the word design 55a in [contents, a big hit] content, a jackpot may occur depending on the scenario evolution. Therefore, the player's attention to the production display is not distracted.

25   As shown in FIG. 2[(d)](d), if a Reach state is reached with the same stop symbols in the right and left display zones 50R and 50L, the contents change according to the evolution of the scenario. However, if the stop symbols in the right and left display zones 50R and 50L are not the same [each other], as shown in FIG. 2[(e)](e), a miss results. In the case of [such] a miss, the word design 55b shows a harsh [contents] content such as

30   ["Go]"Go away, bozo!"

As described above, the [contents] content of the attachment designs, such as the word design and the true intention design, greatly influence the expectations of the player for a [big hit] jackpot. Each attachment design is shown simultaneously with the stop time point of the [variation] varying display, and in case their contents are consistent, the stop-displayed special symbols also show a Reach state. Namely, [it is constituted that] the game situation can be accurately grasped by [only] watching only the attachment design display, without paying attention to the special symbols moving at high speeds.

When the game [comes to] attains a Reach state, the production display changes, after displaying ["Reach"]"Reach" as shown in FIG. 3[(f)](f), to that of an evolved, completely different state of the scenario. Therefore, the player not only can easily recognize from the production display the occurrence of a Reach state but also can have enhanced expectations for [big hits] jackpots to follow.

The scenario evolves roughly in four patterns; ["super]"super love-love Reach," ["direct]"direct to hotel Reach," ["date]"date spot Reach," and ["another]"another guy Reach." Although these evolution patterns have different contents, the end of the scenario is whether the [two,] male and female characters finally check in the hotel. If the final display indicates that the male and female (two) characters check in the hotel, the game results in a [big hit] jackpot with the three display zones 50L, 50C, and 50R showing the same designs. If the male and female characters do not check in the hotel, the game results in a miss.

FIG. 4 shows a scenario evolution of the above-mentioned ["super]"super love-love Reach." In this ["super]"super love-love Reach" state, many heart [marks] symbols are shown in the background, and the scenario evolves that the male and female characters go directly to and check in the hotel. That is, once the game results in this ["super]"super love-love Reach" state, [thereafter] the game results in a [big hit] jackpot with a probability of 100[%. And after]%. After showing a [big hit] jackpot image of FIG. 4 (h3), the display changes to a [big hit] jackpot game image.

Referring again to FIG. 3, in case the scenario evolves to a state other than the ["super]"super love-love Reach," there may be a case as shown in FIG. 3[(g)](g) in which large letters are shown in the center of the display screen 3[(a)](a) after reaching to a Reach

state. Here, an expression "I'm gonna make it tonight!" is shown. [To this phrase too, various] Various patterns [are allocated], which correspond to the words before [reaching] attaining a Reach state as shown in FIGs. 31 to 36 (production pattern determination table), are allocated to these phrases. These phrases represent the player's zeal or spirit for the future evolution of either of the characters coming into the scene. [In case] When these phrases are shown, the [big hit] jackpot probability is higher than usual and so the player can hope for further evolution of the scenario.

FIG. 5 shows a scenario evolution in the ["direct]"direct to hotel Reach" case. In this "direct to hotel Reach" case, like in FIG. 4, the scenario evolves that the male and female characters go direct to a hotel. If the characters check [in] into the hotel without any [happening] interruption, the game results in a [big hit] jackpot as shown in Fig. 5 [(j3)](j3). However, unlike the above case of ["super]"super love-love Reach," they do not necessarily check [in] into the hotel.

For example, in the scene shown in FIG. 5 (j4), if the female character in front of the hotel expresses the phrase ["I'm]"I'm leaving, then." and disappears, the game results in a miss. As a matter of course, the special symbols in the stopped state are not the same as each other.

Even in the case a [big hit] jackpot like FIG. 5 (j3), as the final result of the scenario evolution is to be shown, there may be a case in which the display of FIG. 5 (j5) is shown and the two characters do not smoothly check in the hotel. In that case, the player frets about whether the game [evolving] will evolve to a [big hit] jackpot. With such a scenario evolution along with a display causing [fret] fretting about the game evolving to a [big hit] jackpot, the player's mind is mixed with expectations [to a big hit] regarding a jackpot and anxiety about a miss, and so the tension of the player is enhanced.

FIG. 6 shows the scenario evolution of the case of the above "date spot Reach." In this "date spot Reach" case, various dating spots are shown where the male and female characters 51[,] and 52 visit. In this FIG. 6, scenes are shown in which the male and female characters 51[,] and 52 pass in front of a rahmen (Chinese noodle) shop (FIG. 6 (k1)), enter a bar (FIG. 6 (k2)), and come out of the bar (FIG. 6 (k3)). The scenario evolution thereafter is the same as that of the ["direct]"direct to hotel Reach" case shown in FIG. 5.

In FIG. 6, there may be a case in which the words of the female character 52 are shown with ["I]"I don't wanna eat here!" as shown in FIG. 6 (k4). In that case, the game later results in a miss.

FIG. 7 shows the scenario evolution of the above ["another]"another guy Reach" case. In this ["another]"another guy Reach" case (FIG. 7 (m1)), scenes are shown in which male and female characters 51[,] and 52 pass in front of various dating spots while another male character 57 comes walking from the opposite direction. After that, if the [another] other male character 57 simply passes by, the display shifts to that of FIG. 5 (j2), namely the above ["direct]"direct to hotel Reach," and the game results in a [big hit] jackpot. That is, in case the [another] other male character 57 simply passes by, it indicates that the [big hit] jackpot probability is 100[%]%.

However, [there may be a case in which] the female character 52 [says "Sorry] may say "Sorry. I have a date with that boyfriend." as shown with the word design 55e in FIG. 7 (m2), and she leaves with the [another] other male character 57 as in [Fig] FIG. 7(m3). This corresponds to a miss, with the special symbols not in agreement with each other in their stopped state, and the game with this display screen 3a is over.

When a game played with the liquid crystal display 3 results in a [big hit,] jackpot, the game [becomes] shifts to the special game state during which a display as shown in FIG. 8 begins on the display screen 3a. In this special game state, as described before, the [big hit] jackpot game in which the big win hole 5 is converted to a favorable state may be played for up to 16 rounds. Here, the display on the display screen 3a is changed at every turn of the round to notify the player of the turn of the round.

For example, in the special game state, a display is made as shown in FIG. 8 (p1) followed by a round display as shown in FIG. 8 (p2) to notify that the first round of the [big hit] jackpot game is going on. With the round display shown in FIG. 8 (p2), the screen shows an introduction of a female character coming into the scene of a production display.

After that, the display changes to introduce each of the other female characters in succession at every turn of the round. The female character introduction screen displays all the female characters except Gloria and Sandra, shown in FIG. 9 [(to be](described later), up to the seventh round of the [big hit] jackpot game.

□ □   23

When the game enters the eighth round, the display state of each round displays the female character and her favorite male partner (a male character that makes a best couple later). This round display shows all the female characters, except Gloria and Sandra shown in FIG. 9 [(to be](described later), up to the 14th round of the [big hit] jackpot game.

In the 15th round, along with the female character display, a round display with letters is made as ["Gotcha]"Gotcha, two more rounds to go." In the final 16th round, along with the female character display, a round display with letters is made as ["It's]"It's the final round, watch out, hold on."

Here, FIG. 9 shows the combinations of male and female characters appearing during the production display; and [big hit] jackpot probability, Reach evolution rate, and appearance rate when the combinations come into the scene during the production display. In the production display of this embodiment, [two,] one male character and one female [characters] character (two characters) appear as the scenario goes on. As shown in FIG. 9, plural [types of] male and female characters (plural types) appear and their combinations (types of couples) are made to represent different Reach evolution rates and [big hit] jackpot probabilities.

In FIG. 9, the male-female combinations indicated with black hearts ((I) to (VII)) are called ["the]"the best couples." Their Reach evolution rate is 100[%]%, namely the game evolves to a Reach state with a probability of 100[%,]%, and their [big hit] jackpot probability is 15.182[%]%, which is higher than other couples in probability of evolving to a [big hit] jackpot.

Here, the couple appearing in the display examples in the above FIGs. 2 to 8 is the combination of the male character ["Bob"]"Bob" and the female character ["Cathy"]"Cathy" in FIG. 9, which is one of the best couples.

The male-female combinations indicated with white hearts are called ["normal]"normal couples," with a Reach evolution rate of 18.575[%,]%, and a [big hit] jackpot probability of 0.391[%]%, both lower than those of the best couples.

The male-female combinations indicated with broken hearts are called ["worst]"worst couples," with a Reach evolution rate of 2.002[%]%, namely little probability of evolving to a Reach state, and a [big hit] jackpot probability of a very low 0.020[%]%. Here, as seen

□ □ 24

in FIG. 9, the female characters ["Gloria"]"Gloria" and ["Sandra"]"Sandra" are not included in any of the best couples or the normal couples. The best couples and the normal couples are constituted with combinations of seven female characters, other than ["Gloria"]"Gloria" or ["Sandra]"Sandra," and specific male characters. Therefore, the [contents] content of the round display shown during the special game [suggest] suggests not only the ordinal number of the round but also the characters constituting the best couples of high probabilities of [big hits] jackpots.

Plural backgrounds are preset to the scene where the male and female characters appear. An example of the background is a ["station]"station plaza" as shown in FIG. 10, and another is a ["seaside]"seaside park" as shown in FIG. 11. Changing the scene setting by the use of different backgrounds makes it possible to evolve the scenario according to respective backgrounds, increase the number of variations of the production display, and enhance the fun of the game.

[There may be a case as] As shown in FIG. 10 [in which] a train design 58 [passes] may pass across the background of the scene where the male and female characters appear, or [a case] as shown in FIG. 11 [in which], a dog design 59 [appears] may appear. These are the omen production designs indicating the Reach evolution rate and the [big hit] jackpot probability. In this embodiment, the passage of the train design 58 and the appearance of the dog design 59 are very rare. Therefore, if they appear, the [big hit] jackpot probability is 100[%]%.

The true intention designs 54a and 56a are arranged to produce different probabilities of [big hit] jackpot depending on combinations they make. FIG. 12 is an overview table of the true intention designs shown as the production display. FIG. 13 shows combinations of the true intention designs shown in FIG. 12 and their probabilities of [big hit] jackpot. As shown in FIG. 13, when any combination corresponding to the affectionate rank is shown on the production display, the [big hit] jackpot probability is 2.47[%]%. When any combination corresponding to the date rank is shown on the production display, the [big hit] jackpot probability is 0.28[%]%. When any combination corresponding to the no-way rank is shown on the production display, the [big hit] jackpot probability is 0.07[%]%.

According to FIG. 13, any combination in the affectionate rank or in the date rank is

constituted with true intention designs related to each other to some extent. Any combination in the no-way rank is constituted with true intention designs having nothing to do with each other. [The case of] FIG. 2[(d)](d), described before, corresponds to the combination 1 (H14 + H14) of the affectionate rank with a high probability of [big hit. The case of] jackpot. FIG. 2[(e)](e) corresponds to the combination 6 (H14 + H19) of the no-way rank with a low probability of [big hit] jackpot.

As described above, the production display makes it possible to completely grasp the contents of the game played on the liquid crystal display device 3 by simply watching the scenario evolution shown with the production display. Therefore, there is no need [any more] to watch the special symbols that are displayed [to] and that vary at high speeds.

[The] A pachinko game machine [of this] according to an embodiment of the invention is further arranged to show various demonstration displays (hereafter 'demo displays' for short) when no [variation] varying display is shown on the liquid crystal display device 3. The demo display not only shows the flow of the entire game played on the liquid crystal display device 3 but also includes important information related to the game.

This demo display shows a suggestion of the relationship of various production displays appearing during the [variation] varying display relative to the Reach evolution rate and the [big hit] jackpot probability. Specifically, the display shows the omen production designs constituted with the male and female characters, and suggests the presence of a strong relationship between the omen production designs and the Reach evolution rate and the [big hit] jackpot probability.

As described above, the omen production design shown with the combination of the male and female characters of the best couple has very high Reach evolution rate and high [big hit] jackpot rate. Here, the fact that the seven best couples ((I) to (VII) in FIG. 9) have very high probabilities of Reach evolution and [big hit] jackpot is implicitly [notified] indicated by the random display of the couples during the demo display. That is, the demo display implicitly notifies the player of important information related to the game.

Therefore, the player, seeing the demo display repeatedly, is impressed with the couple of the characters appearing in the scene. As the player continues playing, the player becomes aware that the [impressed] impressive couples are high in the Reach evolution

rate and the [big hit] jackpot probability, and can have additional fun of anticipating the appearance of the best couple during the [variation] varying display. That is, by notifying the player of the best couple not directly, but implicitly, the additional fun of finding information advantageous to the player is provided and the pleasure of the game is

5   enhanced.

FIG. 14 shows combinations of the male and female characters for the best couples shown in FIG. 9. The best couple (I) is the combination of the male character ["Bob"]"Bob" and the female character ["Cathy]"Cathy," the best couple (II) is ["Larry"]"Larry" and ["Jean]"Jean," the best couple (III) is ["Alex"]"Alex" and

10   ["Mary]"Mary," the best couple (IV) is ["Ted"]"Ted" and ["Ann]"Ann," the best couple (V) is ["Paul"]"Paul" and ["Martha]"Martha," the best couple (VI) is ["Bruce"]"Bruce" and ["Cindy]"Cindy," and the best couple (VII) is ["Mark"]"Mark" and ["Karen."]"Karen." These best couples appear randomly in the demo display.

Specific situations of the demo display in which the above best couples ((I) to (VII) in

15   FIG. 9) appear are shown in FIGs. 15-D1 to 15-D4. Here, a scene with a station plaza as a background is displayed on the display screen 3a and the [above] best couples pass right and left across the scene. As shown in this FIG. 15, the [contents] content of the display is likely to be overlooked by the players who do not know the meaning of the best couples. However, as the play goes on and the meaning is gradually understood, the contents of the

20   demo display become very interesting to the player.

The female characters "Gloria" and "Sandra", without partners to make up the best couples shown in FIG. 9, are supposed to pass by themselves during the demo display. That the female characters "Gloria" and "Sandra" pass by themselves implies a very low probability of a [big hit] jackpot, which the player does not want.

25   For those players who become aware that the demo display is implying important information [on] about the game, additional pleasure is provided to seek more advantageous information. For example, in FIG. [15] 16-D5, the train design 58 passes through the background during the demo display, and in FIG. 16-D6, a dog design 59 appears in front of the background during the demo display. Since the train design 58 and

30   the dog design 59 correspond to [the big hit] a jackpot probability of 100[%]%, as

described above, [a new] _additional_ fun of play, namely the player's [finding those] _discovery of that information_, is added.

As for beginners, if they become aware at an early stage that the demo display is suggesting important information on the game, they can face the game with adequate knowledge of the production display without acquiring much experience.

The above demo display on the liquid display device 3 may _be_ alternatively arranged to be shown at specific time intervals when no game is played on the liquid display device 3, or on demand by the player. Further alternatively, [it may be arranged that] the demo display [is] _may be_ started when no game is _being_ played on the liquid display device 3, continuously for a specific period of time, namely when the symbol variation is not made continuously for a specific period of time, and [that] the demo display is finished upon starting _of_ the game on the liquid display device 3.

FIG. 17 is a block diagram of an [electric] _electrical_ circuit part of [the] _a_ pachinko game machine _according to an embodiment_ of the invention.

As shown in FIG. 17, the [electric circuit part of the pachinko game machine of the invention is constituted with] _electrical circuit part includes_ a main circuit board 30, a relay circuit board 34, a symbol control circuit board 31, a voice control circuit board 32, and a prize ball control circuit board 33.

The main circuit board 30 [is constituted about] _includes_ a microcomputer with a central processing unit (CPU), a read-only memory (ROM), and a random access memory (RAM), _a_ readable and writable memory means.

The main circuit board 30 is connected to the relay circuit board 34 to which are connected the following components[;]_:_ a passage ball sensor 20 as a game ball detecting means for detecting game balls passing through the passage ball gates 6a and 6b_,_ described before[,]_;_ a start win ball sensor 22 for detecting balls entering the start win hole 4_,_ described before[,]_;_ a big win ball sensor 25 for detecting balls entering the big win device 5_,_ described before[,]_;_ a win ball sensor 21 for detecting balls entering the general win holes 13a, 13b, 13c, 13d, 13e, and 13f[,]_;_ an ejected ball sensor 23 for detecting balls ejected from a ball ejector (not shown)[,]_; and_ a return ball sensor 24 for detecting balls ejected but returned without reaching the game board. To the relay circuit board 34 are

further connected actuators[;], an LED display device 2, a lamp display device 41 for connection to board side lamps 14a and 14b, the start win hole 4, and the big win device 5.

When [the above] these sensors detect balls, their detection signals are [inputted] input to the CPU in the main circuit board 30 to operate and control the respective actuators according to the input signals. Control orders are also transmitted to the symbol control circuit board 31, to the voice control circuit board 32, and to the prize ball control circuit board 33.

When a game is being played, if the passage ball sensor 20 detects a game ball passing through the passage ball gates 6a or 6b, and a detection signal is [outputted] output, the microcomputer in the main circuit board 30 [judges] determines that a win has occurred in response to the detection signal, and controls the display on the LED display device 2 according to the [judgment result] determination.

When the start win sensor 22 detects a ball entering the start win hole 4 and outputs a detection signal, the microcomputer in the main circuit board 30 transmits a control signal to the symbol control circuit board 31 to carry out various settings for the game on the liquid display device 3 according to the detection signal, and controls the liquid display device 3 according to the [judgment with] determination made at the symbol control circuit board 31. Here, the symbol control circuit board 31 comprises, separately from the main circuit board, a CPU, a ROM, and a RAM. Control programs for the game played on the liquid display device 3 and graphic data necessary for the game are stored in the ROM in the symbol control circuit board 31.

Based on the [above] detection of the game ball with the start win sensor 22, the microcomputer in the main circuit board 30 makes a [judgment if the game resulted in a big hit. In case the judged result is a big hit] determination as to whether the game has produced a jackpot. When the determination is a jackpot, the big win device 5 is converted to the open state with the doors of the big win device 5 opened to facilitate entry of the game balls [to enter].

The voice control circuit board 32 [is provided with] includes various voice data and produces voices with the speaker 40 according to control orders transmitted from the main circuit board 30.

The prize ball control circuit board 33 operates a prize ball device 43 according to control orders transmitted from the main circuit board 30 according to each type of win, and dispenses game balls.

The control process for the games played with the liquid crystal display device 3 using the main circuit board 30 and the symbol control circuit board 31 is described below in reference to the flowcharts shown in FIGs. 18 to 24.

The game control process shown in FIGs. 18 to 24 is performed [with] by the main circuit board 30.

With the main circuit board 30, a main game control process (ST1 to ST7) shown in FIG. 18 is repeated and also periodical interruption process (ST10 to ST20), as shown in FIG. 19, is performed at specific time intervals (for example, every three milliseconds) [on condition that] if an interruption permitting flag is set.

The flow of the main game control process shown in FIG. 18 is described below:

ST1: Set an interruption permitting flag.

ST2: Renew the random number counter for the stop symbol determination and the random number counter for the Reach [judgment] determination.

The stop symbol determination random number counter [is for extracting] extracts stop symbol determination random numbers used to determine the stop arrangement with the liquid crystal display device 3 when a miss is determined in the [above big hit judgment] jackpot determination, and renews count values within the range of 0 to 11 shown in FIG. 25. The renewal process is arranged to start from 0, increasing by 1 up to the upper limit value of 11 (hereafter called 'count-up') and again starts counting up from 0 [up. Incidentally, the]. The stop symbol determination random number counter [is constituted with] includes three counters[;]: a left stop symbol determination random number counter, a middle stop symbol determination random number counter, and a right stop symbol determination random number counter, to perform the renewal process individually.

The Reach judgment random number counter [is for extracting] extracts the Reach [judgment] determination random numbers used to determine whether or not the [variation] varying display of the special symbols [is made to] has attained the Reach state in the case of a miss, and renews count values within the range of 0 to 9 shown in FIG. 25. That is,

the renewal process is arranged to count from 0 up to the upper limit value of 9, and again up from 0 [up].

ST3: [Judge] Determine if a control command for the error check process is being transmitted. If yes, return to [the above] step ST1; if no, go to [the process of] ST4.

ST4: Generate a command for [the] an error check process.

ST5: Perform an error check [process] according to the command generated in ST4.

ST6: [Judge] Determine if an error is occurring. If yes, return to ST1. If no, go to [the process] ST7.

ST7: Perform the special symbol game control process shown in FIGs. 20[,] and 21 [to be], described later. As described before, [periodical] periodic interruption [process is performed] occurs according to the process flow of ST10 to ST20 shown in FIG. 19.

ST10: Retract all the registers.

ST11: Perform renewal process with the [big hit judgement] jackpot determination random number counter, the [big hit] jackpot symbol determining random number counter, and the production group determining random number counter.

The [big hit judgment] jackpot determination random number counter is for extracting the [big hit judgment] jackpot determination random numbers used to determine whether the game result with the liquid crystal display device 3 is to be [made a big hit (big hit judgment)] a jackpot (jackpot determination) in which the same special symbols appear, and renews count values within the range of 0 to 334 shown in FIG. 25. That is, the renewal process is arranged to count from 0 up to the upper limit value of 334, and again up from 0 [up].

The [big hit] jackpot symbol determining random number counter [is for extracting] extracts the [big hit] jackpot symbol determining random numbers used to determine the stop arrangement with the liquid crystal display device 3 when the [above big hit judgment] jackpot determination results in a [big hit] jackpot, and renews count values within the range of 0 to 11 shown in FIG. 25. That is, the renewal process is arranged to count from 0 up to the upper limit value of 11, and again up from 0 [up].

The production group determining random number counter [is for extracting] extracts the production group determining random numbers used to determine the production group

[to be], described later, and renews count values within the range of 0 to 1023 shown in FIG. 25. That is, the renewal process is arranged to count from 0 up to the upper limit value of 1023, and again up from 0 [up].

ST12: Perform renewal process with each timer.

ST13: Upon detecting input signals from various sensors, such as the passage ball sensor 20, the win ball sensor 21, and the start win ball sensor 22, perform processes according to the input signals. For example, [in case] when an input signal from the start win ball sensor 22 is detected, a determination is made as to whether the start win memory number is less than the upper limit value (above-mentioned four) [is judged. If]. If the start win memory number is below the upper limit value, the count [values] value is renewed respectively with the [big hit judgment] jackpot determination random number counter, and the [big hit] jackpot symbol determining random number counter[,] and the production group determining random number counter are extracted as the random numbers and[,] transferred to and stored in the RAM of the main circuit board 30.

ST14: Perform a process related to the display with the LED display device 2 (this is called ["ordinary]"ordinary symbol process"). In this ordinary symbol process [are performed], a win [judgment] determination is made with the LED display device 2 and a display control of the LED display device 2, based on the [judgment] determination result is made.

ST15: Perform decoration control process of turning on, off, and flashing various LEDs according to the game state.

ST16: Perform prize ball dispensing process in response to requests for [dispensation] dispensing requested as a result of game balls entering the win hole.

ST17: Perform an error [judgment] determination process if various errors have occurred in the game machine.

ST18: Perform the process of transmitting control commands to the symbol control circuit board 31, etc.

ST19: Reset each register.

ST20: Set an interruption permitting flag.

As shown in [FIG.20] FIG. 20, a special symbol game control process [judges]

determines whether [or not] any startup prize is stored (ST30). When it is [judged] determined that any startup prize is not stored, the following processes are performed.

A demonstration display switching timer for governing [the] switching timing between the demonstration display in the liquid crystal display device 3 and the game in the [variation] varying display of special symbols (hereinafter referred as "ordinary [game),] game"), counts [the] a predetermined time duration to [judge] determine if an order to switch to the demonstration display is [outputted] output (ST31). If it is [judged] determined to output the switching order, then it is [judged] determined whether the demonstration display is in display state (ST32). If the demonstration display is in display state, the process switches the state to the ordinary game (ST33) and if in the ordinary game state, then changes to the demonstration display (ST34).

If it is [judged] determined at ST30 that a memory of the startup prize is stored, then the following processes are performed.

The random number for [big hit judgment] jackpot determination, which is stored in RAM at ST13, is read, and it is then [judged whether or not in the big hit state, using a big hit judgment] determined whether the state is to be a jackpot or not, using a jackpot determination table stored in a ROM, as shown in FIG.27 (ST35). [In the case if] If the random number read for [big hit judgment is "7" it is judged as big hit.]jackpot determination is "7", it is determined that it is a jackpot.

[When the big hit judgment is provided] When the jackpot determination is made at ST35, the random number for [big hit] jackpot symbol determination, which is stored in RAM at ST13, is read, and the [big hit] jackpot symbol is determined from the [big hit] jackpot symbol determination table stored in the ROM, as shown in FIG.27 (ST41). As shown in this FIG.27, in the embodiment described, twelve types of special symbols are provided. The [big hit] jackpot is a stop arrangement in which three of each special symbol are aligned. The data of these symbols are in turn stored in a ROM in the symbol control circuit board 31.

When the [big hit] jackpot symbol is determined, a production group determination table for [big hit (FIG.28C)] jackpot (FIG. 28C) is selected from three production group determination tables stored in the ROM, as shown in [FIG.28] FIG. 28, and the random

number for production group determination, which is stored in the RAM at ST13, is used to determine the production group required to determine the production display (ST42).

When the [judgment] determination of a miss is [provided] made at ST35, the random number for Reach [judgment] determination, which is stored in the RAM at ST13, is read, and it is determined whether [or not in] the Reach state is to be shown (whether [or not] the [variation] varying display is to be switched to the pre-[bi-hit] jackpot state), using the Reach [judgment] determination table stored in the ROM, as shown in [FIG.29] FIG. 29 (ST36).

When the Reach [judgment is provided] determination is made at ST36, the random numbers for left side stop symbol determination, central stop symbol determination and right side stop symbol determination, which are stored in the RAM at ST13, are read, and the stop arrangement of the special symbol is determined from a left side stop symbol determination table, central stop symbol determination table, and right side stop symbol determination table (ST39). In this determination process, the left side stop symbol is firstly determined and the same symbol is then determined for the right side stop symbol. If the symbol determined from a random number for the central stop symbol determination is identical to the left side and right side stop symbols, the central stop symbol is changed to one fed by one frame.

If a stop arrangement of a miss after [reaching] attaining a Reach state is determined, then a production group determination table [(FIG.28B)](FIG. 28B) for misses after [reaching] attaining a Reach is selected, as shown in [Fig.28] Fig. 28, and the random number for production group determination, which is stored in the RAM at ST13, is used to determine the production group (ST40).

If the [judgment] determination of a miss without attaining a Reach state is provided at ST36, as is the case with ST39, the random numbers for left side stop symbol determination, central stop symbol determination and right side stop symbol determination, which are stored in the RAM at ST13, are read to determine the stop symbol. Different from the determination process in ST39, the left side and the central stop symbols are firstly determined from random numbers for left side and central stop symbol determinations. If the right side stop symbol determined from a random number for the

right side stop symbol determination is identical to the left side stop symbol, the right side stop symbol is changed to one fed by one frame (ST37).

If a stop arrangement [of] indicating a miss without [reaching] attaining a Reach state is determined, then a production group determination table [(FIG.28A)](FIG. 28A) for misses without [reaching] attaining a Reach state is selected, as shown in [Fig.28] Fig. 28 and the random number for production group determination, which is stored in the RAM at ST13, is used to determine the production group (ST38).

As described above, when the stop arrangement of a special symbol is determined, a symbol variation command is generated to control the liquid crystal device for displaying, on the basis of [such] the determination (ST43), and then the symbol variation command is transmitted to the symbol control circuit board 31 (ST44).

Now, entering [a] the flow chart in [FIG.21,] FIG. 21, it is [judged] determined whether [or not a big hit] a jackpot is provided (ST45). If [judged as] determined to be a miss, the process goes to ST53, described hereinafter in [details. If judged as a big hit, then a big hit] detail. If determined to be a jackpot, then a jackpot fanfare process is performed to control the sound control circuit board 32 for outputting sound [(big hit](the jackpot fanfare) which is generated [in a loud speaker] through a loudspeaker 40 to give notice of the [big hit] jackpot (ST46).

Then, a round display-switching timer for governing the timing when an ordinary game state is changed to a round display of a [big hit] jackpot state with the liquid crystal display device 3, and counts a predetermined time duration to [perform the switching of] switch the ordinary game to the round display (ST47).

A [big hit] jackpot game time check process for governing the execution time (30 sec) for one round of a [big hit] jackpot at a big prize hole 5 and for governing the latency for switching of the round display is performed (ST48). As a result of the check process, if the lapse of the execution time duration of one round of the [big hit] jackpot state is verified, the flapper of the big prize hole 5 is [processed to close] closed. If the lapse of the latency for the switching of the [big hit] jackpot state is verified, then the flapper of the big prize hole 5 is [processed to open] opened (ST49).

Following ST49, it is [judged] determined whether [or not] the big prize hole 5 is being

opened (ST50). When it is opened, the process returns to ST48 process to continue the [big hit] jackpot state. When it is not opened, the process [judges if] determines whether the V win described before is established (ST51). If the V win is established, then the process returns to ST48 process to continue the [big hit] jackpot state. If the V win is not established, then the bit hit state is completed (ST52).

[And] Then, the working area of the RAM, which has been used for the special symbol game control process, is reset (ST53).

[FIG.22] FIG. 22 is a flow chart[,] showing a main process performed by the special symbol control circuit board 31.

The count value of the random number counter for extracting a random number for production pattern determination, which is used for determining the production pattern of a production display described hereinafter is renewed in a range between 0 and 127, as shown in [FIG.25] FIG. 25 (ST60).

Then, it is [judged] determined whether [or not] a symbol variation command is received from the main circuit board 30 (ST61). If the symbol variation command is received, a command receipt flag is set (ST62).

And, it is [judged] determined whether [or not] it is in error state (ST63). If [not in] there is no error state, image processing is performed (ST64).

Referring to a flow chart in [FIG.23] FIG. 23, the image processing [will be] is described [hereinafter].

If in [big hit] jackpot state [("YES"]("YES" at ST70), then it is [judged] determined at ST62 whether [or not] the command receipt flag is set (ST71). If not set, the round display is kept [to be] in the display state (ST74). If the command receipt flag is set, then an image to be displayed in the round display is set (ST72) according to the symbol variation command received from the main circuit board 30. After canceling the command receipt flag (ST73), the round display process is performed according the setting (ST74).

If in demonstration display state [("YES"]("YES" at ST75), then it is [judged] determined whether [or not] the command receipt flag is set (ST76). If not set, the demonstration display is kept [to be] in the display state (ST79). If the command receipt flag is set, then an image to be displayed in the demonstration display is set (ST77)

□   □   36

according to the symbol variation command received from the main circuit board 30. After canceling the command receipt flag (ST78), the demonstration display process is performed according the setting (ST79).

If in an ordinary game state ("YES" at ST80), then it is [judged] determined whether [or not] the command receipt flag is set (ST81). If not set, the [variation] varying display and production display are kept to be in the display state (ST84). If the command receipt flag is set, then [variation] the varying display related setting for the special symbol in the ordinary game (ST82) and the production pattern determination process (ST83) are performed according to the symbol variation command received from the main circuit board 30. After canceling the command receipt flag (ST84), the ordinary game process (display process for the [variation] varying display and production display) is performed (ST85).

Referring to a flow chart in [FIG.24] FIG. 24, a production pattern determination process performed at ST83 [will be] is described [hereinafter].

Based on the production group [which are] determined at ST38, ST40, and ST42 and contained in the symbol variation command received from the main circuit board 30, one of the production pattern determination tables in FIG. 31 through [FIG.36] FIG. 36 is selected to determine the production pattern to be displayed as a production display.

If the production group 0 is selected ("YES" at ST86), in other words, in the state of a miss without [reaching] attaining a Reach, as shown in [FIG.28] FIG. 28, a production pattern determination table (1) for misses without [reaching] attaining a Reach in [FIG.31] FIG. 31 and a production pattern determination table (2) for misses without [reaching] attaining a Reach in [FIG.32] FIG. 32 are selected. Then, the count value of the random number counter for production pattern determination, which is renewed at ST60, is extracted as the random number for production pattern determination [to determine the]. The production pattern is allocated with a range of random numbers, in which [said] the random number is included, as a production pattern to be displayed (ST87).

If the production group 0 is not selected and one of the production groups 1 to 20 is selected [("YES"]("YES" at ST88), in other words, in the state of a miss after [reaching] attaining a Reach, as shown in [FIG.28] FIG. 28, a production pattern determination table

(1) for misses after [reaching] <u>attaining</u> a Reach in [FIG.33] <u>FIG. 33</u> and a production pattern determination table (2) for misses after [reaching] <u>attaining</u> a Reach in [FIG.34] <u>FIG. 34</u> are selected. Then the count value of the random number counter for production pattern determination, which is renewed at ST60, is extracted as the random number for

5   production pattern determination. <u>The random number is used</u> to determine the production pattern allocated with a range of random numbers in which [said] <u>the</u> random number is included, as a production pattern to be displayed (ST89).

If one of the production groups other than 0 to 20, or the production groups 21 to 37 is selected [(''NO''](<u>''NO''</u> at ST88), in other words, in the state of a [big hit] <u>jackpot</u>, as

10   shown in [FIG.28] <u>FIG. 28</u>, a production pattern determination table (1) for [big hit] <u>jackpot</u> in [FIG.35] <u>FIG. 35</u> and a production pattern determination table (2) for [big hit] <u>jackpot</u> in [FIG.36] <u>FIG. 36</u> are selected. Then the count value of the random number counter for production pattern determination, which is renewed at ST60, is extracted as the random number for production pattern determination. <u>The random number is used</u> to

15   determine the production pattern allocated with a range of random numbers in which [said] <u>the</u> random number is included, as a pattern to be displayed (ST90).

As shown in [FIG.31] <u>FIG. 31</u> through [FIG.36] <u>FIG. 36</u>, in the embodiment 252 types of pattern are provided as the production pattern, and those patterns are stored in the ROM within the symbol control circuit board. In these various production patterns, appearing

20   characters, expressions of the characters, true intention designs, words, backgrounds, words upon entering a Reach <u>state</u> and types of Reach [is] <u>are</u> previously set [in advance] and a variety of scenarios are configured by combining them <u>with</u> each other.

Now, F1 - F4 in [FIGs.31] <u>FIGs. 31</u> to 36 represent expressions of respective characters, practical forms of which are shown in [FIG.37] <u>FIG. 37</u> and [FIG.38. FIG.37] <u>FIG. 38.</u>

25   <u>FIG. 37</u> shows varied expression types of male characters and [FIG.38] <u>FIG. 38</u> shows varied expression types of female characters. H1 – H20 represent true intention designs of respective characters, practical forms of which are shown in [FIG.12] <u>FIG. 12</u>.

Also, as the display means, a display apparatus configured of an array of a number of LEDs, <u>a</u> CRT, <u>a</u> plasma display device, and electro-[luminescence] <u>luminescent</u> device or

30   the like may be used, as well as <u>a</u> liquid crystal display device.

Although the embodiments described are applied to a pachinko game machine, this invention may be also applied to other game machines, such as one including an electrical display device or any imaging device. The player can enjoy the game in a home game machine, using a game program [capable to perform] <u>performing</u> pseudo-operations of the pachinko game machine described above. It is also possible to install the program from the recording medium to a general-purpose personal computer, for example, and <u>to</u> utilize the personal computer as a game machine.

Also, the special game state may correspond to a [great deal of] <u>large</u> release of coins (or tokens) in a slot machine.

Industrial Applicability

A game machine [capable of] making it possible for a player to reliably learn [the] game evolution such as a [big hit] <u>jackpot</u>, a Reach evolution, and a miss even without watching variation-displayed special symbols, by simply watching production displays [can be provide] <u>provided</u>. Furthermore, a game machine [capable of] making it possible for a player to grasp production contents without depriving the player of the pleasure of finding <u>a</u> specific production display of information beneficial to the player [can be also provided.

What is claimed is:

1. A game machine comprising:

a display means for displaying a special symbol indicating a shift to a special game state if a variation display stops at a specific form and displaying game-related production display; and

a control means for determining the stop result of the variation display and controlling the display of the display means according to the determination;

the control means being constituted to be adapted to control the display means to perform production display of producing a scenario from its beginning to its end during a period from a start to an end of the variation display.

2. A game machine according to claim 1, wherein the end of the scenario indicates whether

to shift to the special game state.

3. A game machine according to claim 1 or 2, wherein the control means is constituted to control the display means so that the production display becomes such that contents of the scenario progress according to a stop timing of the variation display.

4. A game machine according to claim 1 or 2, wherein said control means is constituted to control the display means so that the production display becomes such that contents of the scenario progress irrespective of a stop timing of the variation display.

5. A game machine according to claim 3, wherein the control means is constituted to change the production display to show an evolution of the contents of the scenario when a state of the game becomes a Reach state which indicates a shift to the special game state if the variation display stops one more special symbol at a specific stop arrangement.

6. A game machine according to claim 5, wherein the evolution of the contents of the scenario is indicated by changes in a background shown as the production display.

7. A game machine according to any one of claims 1 to 6, wherein a progress form of the scenario shown with the production display is different by a type of production designs or combination thereof.

8. A game machine according to any one of claims 1 to 7, wherein the production display suggests moving on to the special game state with a type of the production designs or with an appended design indicated as appended to the production designs.

9. A game machine according to any one of claims 1 to 8, wherein the display means is constituted with a display zone for the production display greater than a display zone for the variation display of the special symbol.

□   □   40

10. A game machine comprising:

a display means for displaying designs related to a game: and

a control means for controlling a display on the display means;

the control means is constituted to be adapted to perform a production display of producing

a process from a beginning to an end of a scenario, and to control the display means to display that the game moves on to a special game state when the end of the scenario indicated with the production display becomes as specified.

11. A game machine readable recording medium recording a game program, wherein the game program gives the game machine a function of permitting a player to play a game by displaying a special symbol indicating a shift to a special game state if a variation display stops at a specific state, and a function of displaying a production from a beginning to an end of a scenario during a period from a start to a stop of the variation display.

12. A game machine comprising:

a display means for displaying game-related designs including a special symbol indicating a shift to a special game state if a variation display stops at a specific arrangement, and including a production design indicating a probability of shifting to the special game state; and

a control means for controlling a display on the display means;

the control means being constituted to control the display means performing a suggestion display of relationship between the production design and the probability of shifting to the special game state.

13. A game machine according to claim 12, wherein the suggestion display indicates which production design has a high probability of shifting to the special game state.

14. A game machine according to claim 12 or 13, wherein the suggestion display shows a design identical to the production design or one relating thereto.

15. A game machine according to any one of claims 12 to 14, wherein the suggestion display is performed with an animated image.

16. A game machine according to any one of claims 12 to 15, wherein the suggestion display is shown when the game is not played or when the variation display of the special symbol is not shown.

17. A game machine readable recording medium recording a game program, wherein the game program gives the game machine a function of permitting a player to play a game while displaying game-related designs including a special symbol indicating a shift to a special game state if a variation display stops at a specific arrangement and including a production design indicating a probability of shifting to the special game state, and a function of performing a suggestion display of relationship between the production design and the probability.

ABSTRACT

A game machine comprises a display means 3a for displaying on predetermined zones 50L, 50C and 50R a special symbol indicating shifting to a special game state if the variation display stops at a specific state and game-related designs including a production design indicating the probability of shifting to the special game state and comprises a control means for determining the stop result of the variation display and controlling the display of the display means 3a according to the determination. The control means controls the display means 3a to perform production display of producing a scenario from its beginning to the end during the period from the start to the end of the variation display in the predetermined zones 50L, 50C and 50R. Furthermore, the display means performs a suggestion display of relationship between the production design and the probability of shifting to the special game state.] is also provided.